

Remarks/Arguments:

Claims 1-3, 13-21, 25, 30-34, 36 and 38-48 were pending in the application. With this amendment, claims 1, 36, 41, 43, and 47 are currently amended, and claims 49-54 are newly added. Accordingly, claims 1-3, 13-21, 25, 30-34, 36 and 38-54 are now pending.

Support for the amendment to independent claims 1, 36, 41, 43, and 47 can be found, for example, in the originally filed application at page 6, lines 14-15 and page 8, lines 11-12. Claim 47 has been amended in a manner similar to the amendments made to the other independent claims in the Amendment filed on June 11, 2008, and these amendments are supported in the application throughout. Support for newly added claims 49-54 is found throughout the originally filed application and are based on pending claims 1 and 3; 36 and 39; and 41 and 42. No new matter has been added.

Rejections under 35 U.S.C. § 103

Claims 1, 13-21, 25, 34, 36, 38, 40, 41 and 43-47 stand rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,912,847 ("Deeba") in view of U.S. Patent No. 6,253,543 ("Russell"). Claims 2, 30-33, and 48 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Deeba in view of Russell as applied to claims 1 and 38 in view of legal precedent. Applicants respectfully submit that the currently pending amended claims are patentable over these cited references for at least the reasons set forth below.

"To establish a *prima facie* case of obviousness, ... the prior art reference (or references when combined) must teach or suggest all the claim limitations." M.P.E.P. §2143.

Independent claim 1, as currently amended, recites, in part:

a compression ignition engine configured to operate in a first, normal running mode to produce exhaust gas, and in a second mode, wherein when operating in the second mode the engine produces an exhaust gas comprising an increased level of carbon monoxide (CO) relative to the exhaust gas produced in the first mode;

means to switch engine operation between the two modes solely in response to at least one of exhaust gas temperature and catalyst bed temperature; and

an exhaust system disposed downstream of the compression ignition engine for receiving the exhaust gas therefrom, the exhaust system comprising a catalysed component comprising a flow through, non-filtered substrate monolith comprising a palladium (Pd) catalyst supported on a first support material associated with at least one base metal promoter and a platinum (Pt) catalyst associated with the supported Pd catalyst, wherein the catalysed component is an oxidation catalyst or a NO oxidation catalyst, and wherein when the catalysed component is the NO oxidation catalyst, a filter is located downstream of the catalysed component.

Thus, the means to switch engine operation between the two modes is recited to be *solely* in response to at least one of exhaust gas temperature and catalyst bed temperature.

Independent claims 36, 41, and 43, have been amended similarly.

First, Deeba and Russell, alone or in any reasonable combination, fail to disclose or suggest a means to switch engine operation between the two modes solely in response to at least one of exhaust gas temperature and catalyst bed temperature. As acknowledged in the Office Action on page 3, Deeba fails to disclose a means to switch engine operation between the two modes in response to at least one of exhaust gas temperature or catalyst bed temperature. The Office relies on Russell for allegedly teaching this feature. Russell, however, does not disclose a means to switch engine operation between the two modes solely in response to at least one of exhaust gas temperature and catalyst bed temperature. With emphasis on Figures 3-5, and in particular Figure 4 of Russell, the initial "gate" at 410 requires a determination of the amount of stored particulate (spa). After estimating the filter temperature at 414, a determination is made of whether or not regeneration is required. As is evident by reviewing the three alternative calculations in box 414, each alternative requires an input from the stored particulate amount (spa) from step 410. See also the discussion at column 4, line 9 to column 5, line 9 of Russell. In other words, a determination of the need to regenerate the filter is not made solely on the basis of temperature. Thus, in view of the claim amendments, Russell does not remedy the deficiencies of Deeba. Accordingly, a *prima facie* case of obviousness has not been established.

Second, Applicants note that the claimed "support material" is not a "ceramic carrier," as implied in the Office Action. Office Action, page 3. The ceramic carrier would be more akin to a monolith. See column 9, lines 3-5 of Deeba describing ceramic or metallic carriers (such as the flow through monolith carrier, albeit a different type of monolith than claimed). Instead, the "support" for the palladium catalyst would be recognized by those skilled in the art as a high surface area particulate material. See e.g., claim 25. In addition, Applicants' claim 1 specifies "a catalysed component comprising a flow through, non-filtered substrate monolith comprising a palladium (Pd) catalyst supported on a first support material associated with at least one base metal promoter and a platinum (Pt) catalyst associated with the supported Pd catalyst." Thus, claim 1 specifies that the four catalytic constituents - Pd, Pt, the support material, and the base metal promoter - are disposed on the (single) monolith. The Office Action, however, utilizes Deeba's disclosure of two separate components (substrate 12 and filter 15) in series, which only collectively have disposed thereon all four constituents. For these reasons as well, a *prima facie* case of obviousness has not been shown for the claims.

Claim 47 continues to be rejected along with the other independent claims in this application, namely claims 1, 36, 41, and 43. Claim 47 includes, however, at least the following features that are neither disclosed nor suggested by Deeba, namely:

a compression ignition engine operable in **a first, normal running mode to produce exhaust gas**, and operable in **a second mode, which second mode produces an exhaust gas comprising an increased level of carbon monoxide (CO) relative to the exhaust gas produced in the first mode** . . .

the exhaust system comprising a catalysed component comprising **(1) a first substrate comprising a first filter and a palladium (Pd) catalyst supported on a first support material associated with at least one base metal promoter and (2) a second substrate comprising a second filter and a platinum (Pt) catalyst** (emphasis added).

Thus, claim 47 recites the features of: (1) a first substrate comprising a first filter and a palladium (Pd) catalyst supported on a first support material associated with at least one base metal promoter and (2) a second substrate comprising a second filter and a platinum (Pt)

catalyst. Deeba, in contrast, fails to disclose both a Pd catalyst and a Pt catalyst, each on a separate filter. Rather, Deeba discloses (1) a diesel oxidation catalyst of trap material and platinum group metals deposited on suitable flow through carriers, and (2) wall-flow filters that contain catalytic agents including platinum on the catalyst support. (Deeba, at col. 7, lines 24-29 and col. 8, lines 38-46). Thus, Deeba fails to disclose each of its catalysts on a separate filter. The Examiner has not asserted that Russell renders this claim obvious, nor do Applicants notice any disclosure of a second filter in Russell. Thus, no *prima facie* case of obviousness has been made with respect to claim 47, and allowance of this claim is also respectfully requested. This point has been made previously, but the Examiner has provided no response.

For all the foregoing reasons, Applicants respectfully submit that a *prima facie* case of obviousness has not been shown for claim 1. Claims 2, 3, 13-21, 25, 30-34, 38, 44, and 48 depend, directly or indirectly, from claim 1 and are therefore allowable for at least the reasons set forth above. Claims 36, 41, and 43, while not identical to claim 1, recite similar features including the means to switch engine operation between the two modes solely in response to at least one of exhaust gas temperature and catalyst bed temperature. Claims 39, 40, 42, 45, and 46 depend from one of claims 36, 41, and 43 and should be deemed allowable as dependent thereon. Claim 47 is patentable for the reasons discussed above.

Allowable Subject Matter

Applicants thank the Examiner for the recognition of the allowable subject matter in claims 3, 39, and 42. Applicants note that this subject matter was first recognized as allowable in the Office Action dated December 11, 2007. Accordingly, new claims 49-54 have been added to incorporate the allowable subject matter rewritten into independent form including all of the limitations of the base claims as found in the claims pending in the Amendment dated October 15, 2007. These claims also make the changes to the first paragraph of the claims (e.g., "engine configured to operate...") made in the Amendment filed on June 11, 2008. In particular, new claim 49 incorporates the allowable subject matter of claim 3 with base claim 1. New claim 51 incorporates the allowable subject matter of claim 39 with base claim 36. New claim 53 incorporates the allowable subject matter of claim 42 with base claim 41. Claims 50,

52, and 54 recite subject matter that was added to claims 1, 36, and 41 after the determination of allowable subject matter. No new matter has been added.

Because new claims 49, 51, and 53 incorporate the respective base claims with the allowable subject matter of claims 3, 39, and 42, respectively, Applicants submit that obviousness rejections of record are moot. Accordingly, it is respectfully submitted that independent claims 49, 51, and 53 are in condition for allowance, and claims 50, 52, and 54 are allowable as dependent thereon.

Conclusion

In view of the amendments and arguments set forth above, Applicants submit that the pending application is in condition for allowance. Notice to this effect is earnestly solicited.

Respectfully submitted,



Christopher R. Lewis, Reg. No. 36,201
Attorney for Applicants

CRL/CEB/lrb

Dated: March 15, 2010

P.O. Box 980
Valley Forge, PA 19482-0980
(610) 407-0700

The Director is hereby authorized to charge or credit Deposit Account No. 18-0350 for any additional fees, or any underpayment or credit for overpayment in connection herewith.

L:\H:\NRPORTBL\RP\LISA\671408_1.DOC